CALIFORNIA COASTAL COMMISSION

OCEAN PROTECTION COUNCIL

Coastal Conservancy

Ocean Protection Council LCP Sea-Level Rise Grant Program Application Form

APPLICANT INFORMATION

Indicate which grant programs you are applying for (can be one or both).

X OPC LCP Sea-Level Rise Grant

_____Coastal Commission LCP Planning Grant

Applicant name (organization): County of Santa Barbara

[redacted]

PROJECT INFORMATION

Project title (start with name of city or county): Santa Barbara County Coastal Resiliency Project, Phase I

LCP/ LCP Segment: County of Santa Barbara Local Coastal Program

Project location: City / Geographic area: North Coast of Santa Barbara County (Jalama Beach County Park to Santa Maria River) County: Santa Barbara

Project timeline: Start date: July 1, 2015 End date: December 30, 2016

Amount of Grant Proposal: $119,000.00

MAPS AND PHOTOS

Applications must include one map showing the planning area for the project. Additional photos or maps may be included as attachments if needed to illustrate the proposed project. Please note: any photos and maps you submit are subject to the unqualified and unconditional right of the State of California to use, reproduce, publish, or display, free of charge. Please indicate if crediting is requested for the photos and/or maps.

APPLICATION MATERIALS

1. **A PROJECT DESCRIPTION.** Provide a clear description of the proposed project. This section should be no more than 5 pages in 12 point font, single-spaced, and should include the following:
    a. **Goals and objectives:** Describe the specific project goals and objectives to be achieved. Goals and objectives should be specific for each year of the work plan presented. Recipients will be required to submit progress reports in which progress against these goals and objectives will be reported. Include a description of how you will accomplish each objective, and how your objectives will accomplish your goals.

    b. **Approach**: Identify specific tasks to be accomplished; explain the technical approach needed to accomplish the tasks; identify the roles of partners and cooperators; and identify potential obstacles to successful completion of the goals and objectives. Describe how stakeholders will be involved in the planning or assessment process. If the project includes partners, the roles and responsibilities of the partners must be clearly identified.

2. **A WORK PROGRAM AND SCHEDULE.** Provide a work program and schedule for implementation of the project, including anticipated benchmarks for LCP or LCP amendment development and review for the project, using the template provided below. For work to be reimbursed using funds from the grant program, the start date must be after authorization is granted after execution of a grant agreement, which will likely be in April 2015 for grants from the OPC and February 2015 for grants from the Commission. For the proposals seeking funding from OPC, all work must be completed by June 30, 2017. For proposals seeking funding from Coastal Commission, work must be completed within two years of the grant agreement start date.

    SCHEDULE

    Proposed starting date: July 1, 2015

    Estimated completion: December 30, 2016

WORK PROGRAM

Santa Barbara County North Coast Coastal Hazard Modeling and Vulnerability Assessment – Phase I	Complete Date: December 30, 2016
Task 1. Populate Regional Resource Database	Projected start/end dates: July 2015/ August 2015
1.1 Collect demographic information (e.g. age and income) using Census block data from the US Census Bureau	Projected start/end dates: July 2015/ August 2015
1.2 Gather critical infrastructure information through spatial analysis of aerial photos or utilizing existing County GIS data. Physical obstacles (e.g. roads and buildings) which can prevent wetlands from moving landward will also be included in this database.	Projected start/end dates: July 2015/ August 2015
1.3 Pull together current economic data and future economic forecast information provided by County Executive Office staff and UCSB researchers	Projected start/end dates: July 2015/ August 2015
1.4 Collect coastal habitat data (e.g. wetlands, rock reefs, and kelp beds) through research, reviewing existing biological reports, and spatial analysis	Projected start/end dates: July 2015/ August 2015
1.5 Convert Excel database into GIS format	Projected start/end dates: August 2015.
Outcome – Resource Database Excel Spreadsheet	Projected complete date: August 31, 2015
Task 2. Model and Map Multiple Coastal Hazards	Projected start/end dates: August 2015/ February 2016
2.1 Coastal Geomorphology / Backshore Characterization / LIDAR	Projected start/end dates: August 2015/ February 2016
2.2 Climate scenarios and total water levels	Projected start/end dates: August 2015/ February 2016
2.3 Modeling shoreline response to sea level rise (Coastline from Jalama Beach to Santa Maria River*): a. Coastal Erosion b. Overtopping c. Coastal Flooding d. Wave Momentum Zone e. Mapping of Coastal Hazards f. Spatial Aggregation/Relative Risk	Projected start/end dates: August 2015/ February 2016
2.4 Fluvial modeling includes development	Projected start/end dates: August 2015/

of Hec-RAS model and climate change application	February 2016
Outcome – GIS Shapefiles and metadata	Projected complete date: February 27, 2016
Task 3. Analyze Social, Economic, and Ecological Conditions	Projected start/end dates: February 2016/ May 2016
3.1 Map habitat data with different sea level rise scenarios based on variables of accretion, erosion, land use/cover, elevation, and projected sea level	Projected start/end dates: February 2016/ May 2016
3.2 Map Census block demographic data combined with economic data to forecast the potential economic damage of future SLR and floods based on present-day economic landscape	Projected start/end dates: February 2016/ May 2016
3.3 Analyze Social, Economic, and Ecological Conditions	Projected complete date: May 2016/June 2016
Outcome – Social, Economic, and Ecological Conditions Maps	Projected complete date: June 30, 2016
Task 4. Prepare a Coastal Hazard Vulnerability Assessment	Projected start/end dates: July 2016/December 2016
4.1 Collect information on historical vulnerability and damage from coastal hazards in the County	Projected start/end dates: July 2016
4.2 Incorporate the historic coastal hazard event and erosion rate data for the County's northern coastline into the existing Coastal Hazard Vulnerability Assessment. Long and short-term projected data for future coastal hazards events and erosion rate data used in the coastal hazard modeling effort will also be utilized	Projected start/end dates: August 2016/September 2016
4.3 Describe the results from the analysis (Task 3) of existing GIS parcel, infrastructure, and ecological data and how coastal resources and priority uses addressed in County's Local Coastal Program will be affected by coastal hazards. These coastal resources and priority uses in the analysis include but are not limited to: public accessways, recreation sites, environmentally sensitive	Projected start/end dates: August 2016/September 2016

habitat areas, agricultural areas, new and existing development, coastal-dependent uses, and critical infrastructure.	
4.4 Utilize the previously developed community engagement process that includes media outreach and news releases, social media outlets, and key stakeholders to review the updated County Coastal Hazard Vulnerability Assessment	Projected start/end dates: October 2016/December 2016
4.5 Continue working with key County Departments to provide input on the updated County Coastal Hazard Vulnerability Assessment	Projected complete date: October 2016/December 2016
Outcome – Santa Barbara County Coastal Hazard Vulnerability Assessment	Projected complete date: December 30, 2016

Please list (1) all significant and pertinent project benchmarks related to the project for which funds are being requested, (2) expected dates for reaching or completing those steps. These will be used in monitoring grant progress and in grant reporting under approved grant agreement.

BENCHMARK SCHEDULE

ACTIVITY	COMPLETION DATE
Regional database for social, economic, coastal armoring, water control structures, and ecological resources	8/31/2015
Coastal Hazard Modeling	2/27/2016
Social, economic, and ecological conditions and their relative vulnerability to coastal hazards analysis	6/30/2016
Coastal Hazard Vulnerability Assessment	12/30/2016

3. **A BUDGET.** Please provide a proposed budget, including the funding request, total project cost, estimated costs per task, funding sources, and in-kind services.

APPLICATION BUDGET INFORMATION

Funding Request: $119,000.00 Total Project Cost: $148,000.00

If multiple funding sources are being used, in the funding sources matrix below, list the major tasks of the proposed project and indicate the estimated cost of each, including the source of

funding for each task. These tasks should correlate with your overall Work Program. An example follows the matrix. Note that in-kind services are covered separately below.

PROJECT FUNDING SOURCES (INSERT ADDITIONAL COLUMNS AS NEEDED)

Double-click on table to edit in Excel.

Task Number	Task Name	Total Cost	Allocation of total cost among all funding sources			
			Applicant's Funding	LCP Grant Funding	OPC SLR Grant Funding	Other Funds (define below)
1	Populate Regional Resource Database	*$6,000*	*$6,000*			
2	Model and Map Multiple Coastal Hazards	*$120,000*	*$1,000*		*$119,000*	
3	Analyze Social, Economic, and Ecological Conditions	*$5,000*	*$5,000*			
4	Prepare a SLR Vulnerability Assessment	*$17,000*	*$17,000*			
TOTAL		***$148,000***	*$29,000*	*$0*	*$119,000*	*$0*

OTHER FUNDING SOURCES (NOT INCLUDING IN-KIND SERVICES)

Double-click on table to edit in Excel.

Source of funds	**$ Amount**	**Status (Committed, Applied, etc)**
County of Santa Barbara General Fund	$29,000	Applied
TOTAL	$ 29,000	

In-kind Services: $

In-kind services or contributions include staff time, volunteer time and materials contributed to the project. Please describe and estimate value, and differentiate between expected in-kind contributions and contributions (work or other types of contributions) already obtained/completed.

The grant application is requesting approximately $119,000.00 for this potential project. The County of Santa Barbara's Planning and Development Department is seeking a 24.4% cash match of approximately $29,000.00 for this project. The entire amount of this match ($29,000.00) would come from the general fund and be spread over two fiscal years (FY 2015-16 and FY 2016-17).

A consultant for the County's proposed north coast modeling would leverage the current work effort for the County's south coast coastal hazard modeling and development of a vulnerability assessment. This work effort is part of the Coastal Resiliency Project Phase 1 work and received funding from the Climate Ready Grant Program. Additionally, The Nature Conservancy has provided a support letter for the Santa Barbara County Coastal Resiliency Phase 1 work (Coastal Hazard Modeling and Vulnerability Assessment) with a $22,000 in kind contribution consisting of: (1) the TNC staff time and infrastructure necessary to incorporate coastal hazard GIS modeling results and other GIS layers that exist for CRV as of the date of this letter into an expanded web mapper/decision support tool that encompasses Santa Barbara County; and (2) the TNC staff time and infrastructure to host the web mapping application to support planning, outreach and education tasks (Task 3) for the duration of the Santa Barbara County Coastal Hazard Modeling and Vulnerability Assessment.

Additional community partners have been identified within the County and will be solicited to provide further in-kind services (e.g. meeting facilities, workshop materials, advertising, etc).

BUDGET SUMMARY

Grant Application Budget Form

Please use the following form to fill in your estimated budget. Double click on the table to open in excel. Fill in the fields shaded in blue.

	Applicant's Funding	CCC Grant Funding	OPC Grant Funding	Other Funds
Personnel				
Salaries and wages[1]	$ 19,300			
Benefits[2]	$ 7,600			
Total Personnel	$ 26,900	$ -	$ -	$ -
Consultants[3]				
Subcontractor A			$ 119,000	
Subcontractor B (etc.)				
Total Consultants	$ -	$ -	$ (119,000)	$ -
Operating Expenses				
Postage/Shipping	$ 100			
Supplies/Materials[4]	$ -			
Travel[5]	$ 2,000			
Indirect Costs	$ -			
Total Operating Expenses	$ 2,100	$ -	$ -	$ -
Total Budget	$ 29,000	$ -	$ (119,000)	$ -

Supervising Planner Rate
Salary $50.13
Benefits $30.57
Total $80.70

Associate Planner Rate
Salary $37.17
Benefits $25.32
Total $62.49

Assistant Planner Rate
Salary $27.55
Benefits $18.46
Total $46.01

4. **A RESOLUTION (S) FROM THE APPLICANT'S GOVERNING BODY.** A separate resolution is required for each of the grant programs (see sample Resolutions in Attachment A (Coastal Commission) and Attachment B (OPC)). Please submit a resolution that contains the following authorizations: 1) authority to submit the proposal, 2) authority to enter into a grant agreement if the grant is awarded, and 3) designation of the applicant's authorized representative (name and title). For the OPC LCP SLR grant program, a resolution from the applicant's governing body (i.e. City Council, Board of Supervisors, Port Commission) committing to submit to the Commission an amendment to update the LCP (or other plan as applicable) to address sea-level rise is required as part of the application.

SUPPLEMENTAL FORM B – OPC LCP SLR GRANT PROGRAM

Potential Impacts from Sea-Level Rise – Preliminary Assessment

Preliminary assessment of potential impacts from sea-level rise and climate change using NOAA's Sea-Level Rise Viewer or other readily available planning tools is required as part of the application. This assessment should be included and referenced in the project description below to explain the purpose, benefit and need for the proposed project.

Project Description

In addition to the project description that addresses goals, objectives and approach, provide a clear, detailed description of the project proposed that includes the following information in the project description. Please limit to five pages.

a. **Need** - Provide sufficient background information for reviewers to independently assess the significance of the proposed project. Summarize the problem to be addressed and the status of ongoing efforts to address the identified needs.

b. **Benefit** - Applicants should describe how the projects will maximize public benefits of the coast as articulated in the Coastal Act and California Ocean Protection Act. These benefits can include preserving and enhancing habitat such as coastal wetlands and natural lands, conserving biodiversity, protecting, providing or enhancing public access, protecting priority land uses such as coastal dependent development and recreational opportunities and protecting visitor serving amenities. Summarize the relevance of the proposed work to other areas along the coast.

c. **Transferability** - Projects that address issues in a manner that may be useful as a model for other communities will be given priority. The potential transferability of analysis, strategies, or draft ordinance language will be considered in evaluation of proposals.

d. **Implementation** - Identify, with a high degree of specificity, how the work funded by the grant will help the community to update its LCP. Applicants should describe the complete planning process and identify how the work funded by this grant advances that process. Applicants should identify the specific elements of their LCP that they expect to update through this work.

Questions

Ocean Protection Council staff can assist local governments during preparation of grant applications. Please send questions on the OPC LCP SLR grant application process to: Abe Doherty, Ocean Protection Council, abe.doherty@resources.ca.gov.

ATTACHMENT A

Project Description

County of Santa Barbara
North Coast Coastal Hazard Modeling and Vulnerability Assessment

The County of Santa Barbara County's (County) proposed North Coast Coastal Hazard Modeling and Vulnerability Assessment Project is modeled after The Nature Conservancy's *Building Coastal Resilience for Disaster Risk Reduction and Climate Adaptation* project.[1] Specifically, the County's proposed project approach is based off of the Coastal Resilience Ventura project.[2] The County will, again, collaborate and share models with Coastal Resilience Ventura, as both Counties share the Southern California Bight maritime system and have developed a BEACON Joint Powers Authority that represents coastal and beach related interests for all jurisdictions in Santa Barbara and Ventura County (Santa Barbara littoral cell).

Goals and Objectives

The goal of County's Local Coastal Program Sea Level Rise Adaptation Grant Program application is to fill a big data gap for planning level analysis and projections of future coastal hazards on the County's important infrastructure, ecological and community assets.

The objectives of County's Grant Program application are:

1. Science and Modeling - Model and map multiple coastal hazards resulting from a variety of climate scenarios including SLR, storm events and changes to coastal flooding (FY 2015-16);

2. Analysis – Analyze social and economic conditions and their relative vulnerability to coastal hazards. As well as, analyze ecological conditions and their relative vulnerability to coastal hazards with guidance from University of California, Santa Barbara's Santa Barbara Area Coastal Ecosystem Vulnerability Assessment project team for analysis of ecosystems natural ability to protect against these threats (FY 2015-16); and

3. Vulnerability – Develop and assessment of a database for vulnerable social, economic, infrastructure, coastal defenses and ecological coastal resources critical to Santa Barbara County (FY 2016-17).

Potential Impacts From Sea-Level Rise – Preliminary Assessment

The NOAA SLR viewer shows some impacts to low-lying areas in the County, but the lack of inclusion of coastal erosion and detailed hydraulic connectivity, especially in areas of critical infrastructure, require more detailed technical modeling analysis. County Planning and Development staff will hire a consultant to model physical processes to identify planning level changes in future north County coastal erosion and flooding extents. Multiple sea level rise scenarios, coupled with coastal erosion and flooding, will be modeled at a variety of time horizons consistent with state guidance. Resulting data would be hosted through a web mapping application that can be utilized by County and incorporated city staff to address social, economic, and ecological vulnerability to coastal hazards, the science and policy of coastal hazards, and the role of ecosystems in protecting natural and human coastal communities. This would result in a tool that would allow planners, decision-makers, and stakeholders to view ecological, social, and economic information visually alongside sea level rise and storm surge scenarios. The ultimate intent is to identify green adaptation strategies to avoid hazardous redevelopment.

[1] http://coastalresilience.org

[2] A partnership project with Ventura County, Naval Base Ventura County, and the incorporated Cities of Ventura, Oxnard, and Port Hueneme, and The Nature Conservancy.

Project Need

The County received funding from the State Coastal Conservancy's Climate Ready Grant Program for Phase I of this project, which will provide modeling for the County's south coast from Jalama Beach County Park south to the Santa Barbara/Ventura Countyline and development of a Vulnerability Assessment. The specific need in the County is to complete the coastal hazard modeling for the northern County coastline from Jalama Beach County Park north to the Santa Barbara/San Luis Obispo Countyline. The County's main focus for applying to the Local Coastal Program Sea Level Rise Adaptation Grant Program is to seek funding for technical assistance and resources to help County staff accomplish some of the key technical studies, as well as continue building the coastal resiliency project infrastructure for the remaining parts of the County, including incorporated and unincorporated areas. The databases from the previous Climate Ready Grant award (a resource database[3] and a policy and planning tools database) and grant funding for modeling the north coast will fill a gap in resource data for the County, ultimately combining different policies and planning tools utilized by different jurisdictions into one catalogue for the entire County to be used by County staff and staff from the County's incorporated cities. Results from the coastal hazard modeling will support analysis of the databases to support a vulnerability assessment to help analyze future impacts to the County's coastal zone under different climate scenarios. Maps created from the models will illustrate potential future conditions and uncertainties associated with the projections. These maps can be incorporated into long-term policy decisions and short-term permit decisions by staff, decision-makers, and stakeholders to help develop scientifically sound and robust adaptation strategies and identify appropriate management options for dealing with coastal hazards. These adaptation strategies and management options will provide climate information needed to develop new or enhance existing LCP policies and implementing ordinances.

Specifically, to complete this phase of the coastal resiliency project, a variety of communities (estuary, creek mouth, blufftop communities, etc.) must be modeled. This includes Jalama Beach County Park, Santa Ynez River watershed, Point Sal Beach State Park, Guadalupe Dunes, and the Santa Maria Rivermouth. There is also critical infrastructure along the County's coastline including the Union Pacific Railroad, State Highway 1, and County roadways. Results from this project will be coordinated with the results from the south coast modeling to populate a coastal hazard database that spans the entire coastline of Santa Barbara County.

Project Approach

Task 1. County staff will coordinate with cooperating stakeholders to acquire regional databases for selected infrastructure, coastal armoring, water control structures in additional to social, economic and ecological resources within the County. The digital information will be integrated into GIS and compile the individual jurisdictional information into a spatial data set. (FY 2015-16)

Task 2. A consultant for the County's proposed project will model physical processes necessary to identify planning level changes in future coastal erosion and coastal flooding hazards. The coastal hazard modeling will be consistent with the DRAFT (2013) guidance of sea level rise by the California Coastal Commission. This will include modeling of at least two (2) sea level rise scenarios and three (3) planning horizons (plus existing conditions). The consultant will follow a similar range of scenarios and planning horizons as those

[3] Develop a spatially explicit regional GIS database for social, economic, coastal armoring, water control structures (e.g. storm drains, tide gates, levees, culverts) and ecological resources critical to Santa Barbara County

utilized in the Coastal Resilience Ventura Project so that there will be some consistency across the entire BEACON region. To accomplish the modeling and mapping tasks, several subtasks need to be completed including:

1. Development of a backshore inventory that includes parameters necessary to drive the coastal response model. The inventory will be an update of the initial baseline developed for the Pacific Institute study. The inventory will be an offshore baseline segmented at a maximum of 500 meters (~1500 feet) spacing ("blocks") to conduct the coastal modeling at a scale appropriate to decision making. In areas of smaller geological units or backshore type (e.g. inlets, or pocket beaches), the block distance may be smaller. Each block will be assigned a set of parameters including backshore type (dune/cliff/inlet), presence of coastal armor, geology, erosion rates, median/minimum toe elevations, dune/cliff crest elevation, beach slope, foreshore slope, and the 100-year total water level.

   The consultant will utilize available LIDAR including the State funded LIDAR (2010/11), USGS and Scripps collected LIDAR (2005, 2009, 2010), and the NOAA, NASA, USGS LIDAR (1997 and 1998), and potentially other relevant data sets. The consultant will also use readily available offshore depth data sets, and interpolate between LIDAR and under-water depths, as appropriate. Readily available nearshore profile data from BEACON will be reviewed to inform the profile generation. ESA will analyze a range of beach profiles from multiple seasons, at 300-foot spacing along the shoreline, and extract the following information:

   1. Beach slopes (important for wave run-up)
   2. Backshore toe elevation (important for calculating erosion potential)
   3. Crest elevation (important for calculating wave overtopping and flooding).

   This geomorphic information will be included in the backshore inventory layer.

2. The consultant will assimilate and compile existing erosion rates for sandy shorelines and cliffs backed shorelines throughout the Phase 1 study area.

3. The complex setting of the Santa Barbara County north coast requires that wave transformation modeling be conducted to provide accurate wave conditions along the variety of shoreline orientations. The consultant will need to identify the most efficient means to accomplish this wave transformation modeling to make the Santa Barbara County work consistent both with the Ventura Coastal Resilience work and upcoming USGS work. This will also facilitate the incorporation of results into the existing web mapping decision support tool (www.coastalresilience.org).

4. The consultant will model the impacts of storm waves and SLR onto the shoreline at 10-year time steps. The modeling will evaluate two (2) scenarios consistent with State and Federal guidance and the "DRAFT GUIDANCE ON SEA LEVEL RISE" issued by the California Coastal Commission. Output GIS shapefiles will be generated for multiple planning horizons (likely 2030, 2060, 2100). The modeling, as mentioned above, will generate hazard zones which will include:

   - Coastal erosion from sea level rise
   - Coastal erosion from storm impacts
   - Coastal flooding from storms
   - Coastal inundation

In addition, a spatial aggregation method is used to provide spatial representation to the range of relative risk and uncertainties.

5. A consultant will model climate change influences on fluvial (river) flood extents and sediment yields to one of the coastal watersheds in Santa Barbara County (most likely Santa Ynez River). This flood modeling will be conducted using the same method as that of the Coastal Resilience Ventura work which examined climate changes to precipitation and sea level rise and the resultant affect on fluvial flood extents. (FY 2015-16)

Task 3. A mapping application (from Task 2) will allow planners, decision makers, and stakeholders to analyze social, economic, and ecological conditions and their relative vulnerability to coastal hazards. This web mapping tool can simplify complex relationships through visual spatial display to convey a specific ecological or social concept, or compare different future sea level rise and storm surge condition scenarios.

Available habitat data will be collected and displayed along with different sea level rise scenarios. These maps will be helpful to illustrate the coastal habitats relative vulnerability to coastal hazards and help illustrate coastal habitat's natural ability to protect human communities. The mapping application can help identify where marshes may have the highest potential to reduce risk to people and property, allowing them to examine different conservation and restoration scenarios. Census block demographic data can be combined with economic data to identify the potential economic damage of future SLR and floods based on the present-day economic landscape. Adequate information on the risks of coastal hazards, the community's vulnerability to them, economic exposure, potential loss of coastal infrastructure from storms and sea level rise and environmental conditions are important data for planners, decision makers and stakeholders to look at when making land use decisions. (FY 2015-16)

Task 4. The databases (Task 1), mapping tools (Task 2), and social, economic, and ecological conditions analysis (Task 3) will help update the County's Coastal Hazard Vulnerability Assessment by incorporating information for the County's north coast.

County staff would collect information on the County's north coast's historical vulnerability and damage from coastal hazards. Next, County staff would incorporate the new historic coastal hazard event and erosion rate data into the existing Vulnerability Assessment. County staff would analyze existing GIS parcel, infrastructure, and ecological data to evaluate how coastal resources and priority uses addressed in County's LCP would be affected by coastal hazards. These coastal resources and priority uses include but are not limited to: public accessways, recreation sites, environmentally sensitive habitat areas, agricultural areas, new and existing development, coastal-dependent uses, and critical infrastructure.

Additionally, there will be a community engagement process that includes a project website, media outreach and news releases, social media outlets, and the identification of key stakeholders to review the Coastal Hazard Vulnerability Assessment. Stakeholder engagement is a crucial piece that will contribute to the Coastal Hazard Vulnerability Assessment, help identify adaptation strategies, and provide input on new and enhance existing LCP policies.

In addition to UCSB and the incorporated cities in Santa Barbara County, potential stakeholder groups include: Caltrans, Southern Pacific Railroad, California State Parks, Santa Barbara County Association of Governments, California Coastal Conservancy, local Chambers of Commerce, Environmental Defense

Center, Heal the Ocean, Surfrider, Citizens Planning Association, Urban Creeks Council, Santa Barbara Channelkeeper, Vandenberg Air Force Base, and BEACON. (FY 2016-17)

Project Benefit

In Santa Barbara County, the "grey" or traditional hard engineering coastal hazard adaptation strategy is often utilized in development projects. These "grey" adaptation strategies include the building of sea defenses such as sea walls, rock armoring, and groynes to hold back the ocean, reduce processes of erosion, and to capture sediment. These approaches can be effective but they can also be expensive and replace natural systems which provide additional benefits to fisheries, tourism revenues, and recreation. County staff would analyze natural systems such as dunes, coastal wetland habitats, and nearshore and offshore reefs, and their relative vulnerability to coastal hazards as well as their natural ability to protect against these threats. Coastal wetlands capture moving sediments and can reduce the speed and height of floods. Nearshore and offshore reefs act as breakwaters and help generate rock and sand to build beaches. Dune systems buffer surrounding areas by dampening the power and force of waves. By protecting dune systems, coastal wetland habitats, and reefs, County could utilize these natural systems as cost effective nature-based or "green" alternatives to "grey" infrastructure. These "green" coastal hazard adaptation strategies can provide effective barriers to storm events that can be intensified by SLR. Using "green" adaptation strategies can prevent further destruction of existing ecosystems, restore degraded environmentally sensitive habitat areas, and create new public coastal access and coastal recreational opportunities. "Green" adaptation strategies can allow for the natural mitigation and realignment of coastlines to meet changes in sea level and water flows.

Project Transferability

County's coastal resiliency approach can provide lessons learned and expertise to other regions engaged in various stages of coastal hazards adaptation planning. The data and results will be easily shared by the coordinating coastal cities within Santa Barbara County, as well as UCSB, BEACON, Vandenberg Air Force Base, and other interested parties. By example, this collaboration will show other coastal communities how to utilize natural solutions and smart development to reduce risks to disaster and climate change related coastal hazard events. The project team will ensure that final products are available on the California Climate Change portal website, including the Cal-Adapt website.

Project Implementation

The Grant Program would provide much needed funding for technical assistance and resources to help County staff complete Phase I of the Coastal Resiliency Project, which includes the Coastal Hazard Modeling and Vulnerability Assessment. The Coastal Hazard Modeling and Vulnerability Assessment would inform development new and enhance existing coastal development and adaptation policies that integrate social, ecological, and economic considerations to address coastal hazards. Potential policies and regulations to be considered in the LCP update include: restricting development in high risk areas; identifying bluff erosion setbacks; implementing rolling easements; protection, restoration, and enhancement of coastal resources; and maintaining public access to beaches and the coastline including coastal trails.

County will be applying to the Coastal Commission LCP Planning Grant Program and the Coastal Conservancy Climate Ready Grant Program to help fund Phase II of the Coastal Resiliency Project, which includes the Coastal Hazard Adaptation Plan and LCP Amendment.

ATTACHMENT B

Work Program, Budget, and Schedule

Attachment B
LCP SLR Adaptation Grant
Work Program, Budget and Schedule

Task	Subtask	Description	Cost	Total Costs	Completion Date
1	1.1	Collect demographic information (e.g. age and income) using Census block data from the US Census Bureau.	$500	**$6,000**	**Aug-15**
	1.2	Gather critical infrastructure information through spatial analysis of aerial photos or utilizing SBCo existing GIS data. Physical obstacles (e.g. roads and buildings) which can prevent wetlands from moving landward will also be included in the database.	$500		
	1.3	Pull together current economic data and future economic forecast information provided by SBCo Executive Office staff and UCSB researchers.	$500		
	1.4	Collect coastal habitat data (e.g. wetlands, rock reefs, and kelp beds) through research, reviewing existing biological reports, and spatial analysis.	$2,500		
	1.5	Convert the Excel database into GIS format.	$2,000		
2	2.1	Coastal Geomorphology / Backshore Characterization /LIDAR	$10,000	**$120,000**	**Feb-16**
	2.2	Climate Scenarios and Total Water Levels - Develop wave transformation model and apply to	$30,000		
	2.3	Modeling shoreline response to sea level rise (Coastline from Jalama Beach to Santa Maria River*): a. Coastal Erosion b. Overtopping c. Coastal Flooding d. Wave Momentum Zone e. Mapping of Coastal Hazards f. Spatial Aggregation/Relative Risk	 $10,000 $10,000 $10,000 $5,000 $5,000 $5,000		
	2.4	Fluvial modeling includes development of Hec-RAS model and climate change application	$30,000		
	2.5	Project Development Team (includes $2,000 for travel)*	$5,000		
3	3.1	Map habitat data with different sea level rise scenarios based on variables of accretion, erosion, land use/cover, elevation, and projected sea level.	$2,000	**$5,000**	**May-16**
	3.2	Map demographic data (Census Block and disadvantaged community data sets) combined with economic data to forecast the potential economic damage of future SLR and floods based on the present-day economic landscape	$2,000		
	3.3	Analyze Social, Economic, and Ecological Conditions	$1,000		
4	4.1	Collect information on historical vulnerability and damage from coastal hazards in the County.	$1,000	**$17,000**	**Nov-16**
	4.2	Incorporate the historic coastal hazard event and erosion rate data for the County's northern coastline into the existing Coastal Hazard Vulnerability Assessment. Long and short-term projected data for future coastal hazards events and erosion rate data used in the SLR modeling effort will also be utilized.	$5,000		
	4.3	Describe the results from the analysis (Task 3) of existing GIS parcel, infrastructure, and ecological data and how coastal resources and priority uses addressed in SBCo's Local Coastal Program will be affected by coastal hazards. These coastal resources and priority uses in the analysis include but are not limited to: public accessways, recreation sites, environmentally sensitive habitat areas, agricultural areas, new and existing development, coastal-dependent uses, and critical infrastructure.	$7,000		
	4.4	Utilize the previously developed community engagement process that includes media outreach and news releases, social media outlets, and key stakeholders to review the updated SBCo Coastal Hazard Vulnerability Assessment.	$3,000		
	4.5	Continue working with SBCo Departments to provide input on the updated SBCo SLR Vulnerability Assessment.	$1,000		

Project Funding Summary

Tasks Funded by Grant		$119,000
Tasks Funded by County General Fund		$29,000
	Project Total	**$148,000**

* Partially funded by the County.

Signed Resolution

RESOLUTION OF THE BOARD OF SUPERVISORS
COUNTY OF SANTA BARBARA, STATE OF CALIFORNIA

IN THE MATTER OF AUTHORIZING THE DIRECTOR OF PLANNING AND DEVELOPMENT TO EXECUTE ALL NECESSARY APPLICATIONS, CONTRACTS, AND AGREEMENTS FOR GRANT FUNDING FROM THE LOCAL COASTAL PROGRAM SEA LEVEL RISE ADAPTATION GRANT PROGRAM AND EXECUTE PROJECT RELATED AGREEMENTS FOR THE COASTAL HAZARD MODELING AND VULNERABILITY ASSESSMENT	)	RESOLUTION NO. 14-158

WHEREAS, the California Ocean Protection Council, under the authority of the Ocean Protection Act, approved a competitive grant program to provide financial assistance for local and regional vulnerability assessments and updates to Local Coastal Programs (LCPs) and other Coastal Act authorized plans to address sea-level rise, coastal hazards and other climate change-related impacts; and

WHEREAS, the goal of the grant program is to develop updates to LCPs or other Coastal Act authorized plans to address sea-level rise and other climate change impacts; and

WHEREAS, grant proposals submitted under this grant program must address updates to LCPs that deal with sea-level rise and other climate change impacts; and

WHEREAS, the County of Santa Barbara, has an effectively certified LCP; and

WHEREAS, the County of Santa Barbara, recognizing the problems and issues associated with climate change desires to pursue a project that would result in the completion and submittal for certification by the California Coastal Commission of an LCP Amendment, that would address sea-level rise and other climate change impacts; and

WHEREAS, Coastal Hazard Modeling and a Vulnerability Assessment for the northern coastline of Santa Barbara County would further policies in the Santa Barbara County LCP that address sea-level rise and coastal hazards and build on information gathered for the southern coastline of the County; and

WHEREAS, the Ocean Protection Council, requires applicants to state by resolution a commitment to completing an LCP Amendment submittal to the Commission for updating the LCP if the grant is awarded, prior to submission of said applications to the State; and

WHEREAS, the County of Santa Barbara will coordinate with the staffs of the California Coastal Commission, the State Coastal Conservancy and the Ocean Protection Council in undertaking the project, if approved.

NOW, THEREFORE, IT IS HEREBY RESOLVED, that the County of Santa Barbara Board of Supervisors:

1. Authorize the Director of the Planning and Development Department to submit the grant application package to the Ocean Protection Council to provide financial and planning assistance, under authority of the Ocean Protection Act, in the amount of $119,000 to fund the project.
2. Authorize the Director of the Planning and Development Department, to execute, in the name of the County of Santa Barbara, all necessary applications, contracts and agreements and amendments thereto for the completion of the grant application package for the aforementioned project.

PASSED, APPROVED, AND ADOPTED this 1st day of July, 2014 by the following vote:

AYES: Supervisor Carbajal, Supervisor Wolf, and Supervisor Farr

NOES: Supervisor Adam, and Supervisor Lavagnino

ABSENT: None

ABSTENTIONS: None

ATTEST: None

MONA MIYASATO, COUNTY EXECUTIVE OFFICER
CLERK OF THE BOARD

By: Rusa Barker
Deputy Clerk

APPROVED AS TO FORM:
MICHAEL C. GHIZZONI
COUNTY COUNSEL

By: _____
Deputy County Counsel

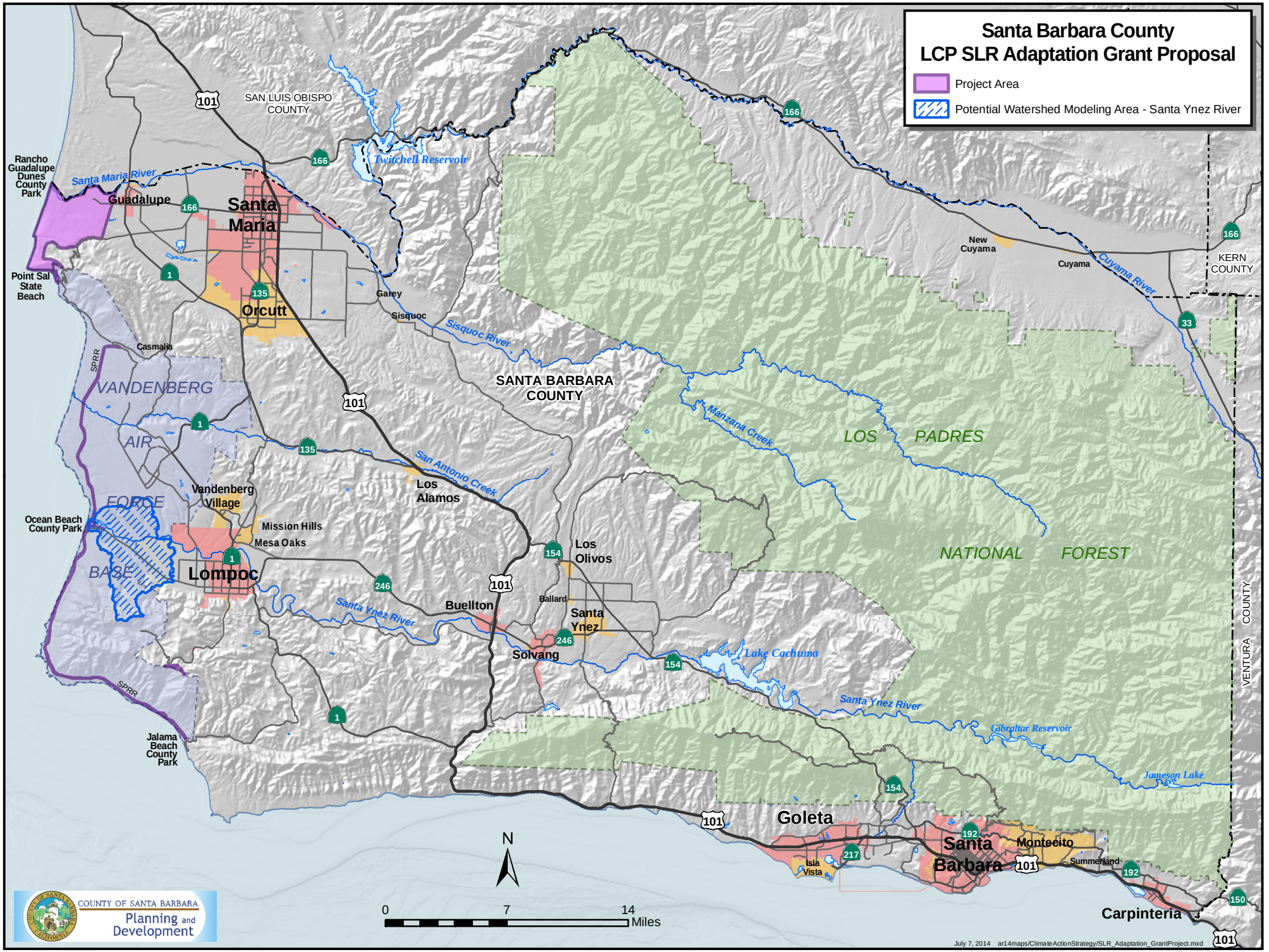
APPROVED AS TO FORM:
ROBERT W. GEIS, CPA
COUNTY AUDITOR-CONTROLLER

By: _____
Deputy Auditor-Controller

ACCEPTED AND AGREED
COUNTY OF SANTA BARBARA

By: _____
STEVE LAVAGNINO, Chair
Board of Supervisors, County of Santa Barbara

Project Area Map


Santa Barbara County
LCP SLR Adaptation Grant Proposal
Project Area
Potential Watershed Modeling Area - Santa Ynez River
SAN LUIS OBISPO COUNTY
KERN COUNTY
VENTURA COUNTY
SANTA BARBARA COUNTY
Rancho Guadalupe Dunes County Park
Point Sal State Beach
Guadalupe
Santa Maria
Orcutt
Casmalia
Garey
Sisquoc
Twitchell Reservoir
Santa Maria River
Sisquoc River
VANDENBERG AIR FORCE BASE
SPRR
Vandenberg Village
Mission Hills
Mesa Oaks
Lompoc
Ocean Beach County Park
Jalama Beach County Park
Los Alamos
San Antonio Creek
Los Olivos
Ballard
Buellton
Santa Ynez
Solvang
Santa Ynez River
Manzana Creek
LOS PADRES NATIONAL FOREST
Lake Cachuma
Gibraltar Reservoir
Jameson Lake
New Cuyama
Cuyama
Cuyama River
Goleta
Isla Vista
Santa Barbara
Montecito
Summerland
Carpinteria
N
0
7
14
Miles
COUNTY OF SANTA BARBARA
Planning and Development
July 7, 2014 ar14maps/ClimateActionStrategy/SLR_Adaptation_GrantProject.mxd